IN THE CLAIMS:

Please cancel claims 1-15 without prejudice or disclaimer, and substitute new Claims 16-30 therefor as follows:

Claims 1-15 (Cancelled).

16. (New) A method of designing a transport network for routing a plurality of routable flows, having a plurality of network elements and a plurality of connections between said network elements, the method comprising:

a) defining a first network configuration and at least one alternative network configuration for said transport network;

b) calculating for each of said first and any alternative network configuration, a probability function representing, for each maximum number of routable flows, the probability of routing such a number of flows in the network configuration currently considered;

c) calculating for each of said first and any alternative network configuration, a complexity function calculated as the ratio between a sum of complexity factors relative to the network elements of the network configuration currently considered and said probability function; and

d) comparing the complexity functions of said first and any alternative network configurations, for choosing a network configuration having a lowest complexity value.

17. (New) The method as claimed in claim 16, wherein said probability function is calculated as the ratio between the number of times that a maximum number of routable flows has been successfully routed by means of a test routine repeated a

predetermined number of times, and the number of times said test routine has been repeated.

18. (New) The method as claimed in claim 17, wherein said test routine comprises:

g) generating a first random number representing a first network element;

h) generating a second random number, different from said first random number, representing a second network element;

i) searching a free path between said first network element and said second network element and, in case said free path has been found, increasing a counter of maximum routable flows and marking said path as a routed flow; and

j) repeating steps g) to i) until no one free path can be found for routing a new flow.

19. (New) The method as claimed in claim 18, wherein first and second random numbers are weighted random numbers in order to simulate a polarized traffic demand in the network.

20. (New) The method as claimed in claim 18, wherein said step of searching a free path provides for searching initially a shortest path between said first and second network elements for successively searching a longer path if said shortest path has not been found.

21. (New) The method as claimed in claim 16, wherein said step of comparing the complexity functions is performed calculating said complexity function for each network configuration considered in correspondence of an estimated maximum number of routable flows in said transport network.

22. (New) The method as claimed in claim 16, wherein the complexity factor of a network element is proportional to the cost of the same network element, and said complexity function represents a unit-cost-per-flow function.

23. (New) A computer program comprising computer program code means adapted to perform all the steps of any one of claims 16 to 22, when said program may be run on a computer.

24. (New) The computer program as claimed in claim 23, embodied on a computer readable medium.

25. (New) A device for designing a transport network having a plurality of network elements and a plurality of connections between said network elements, comprising:

a network configuration unit for defining a first network configuration and at least one alternative network configuration for said transport network;

a probability evaluation unit for calculating for each of said first and any alternative network configuration, a probability function representing, for each maximum number of routable flows, the probability of routing such a number of flows in the network configuration currently considered;

a complexity evaluation unit for calculating for each of said first and any alternative network configuration, a complexity function calculated as the ratio between a sum of complexity factors relative to the network elements of the network configuration currently considered and said probability function; and

a comparison unit for comparing the complexity functions of said first and any alternative network configurations, for choosing a network configuration having a lowest complexity value.

26. (New) The device as claimed in claim 25, wherein said probability evaluation unit calculates said probability function as the ratio between the number of times that a maximum number of routable flows has been successfully routed, by means of a test routine repeated a predetermined number of times, and the number of times said test routine has been repeated.

27. (New) The device as claimed in claim 26, wherein said test routine comprises the steps:

generating a first random number representing a first network element;

generating a second random number different from said first random number representing a second network element;

searching a free path between said first network element and said second network element and, in case said free path has been found, increasing a counter of maximum routable flows and marking said path as a routed flow;

repeating said steps until no one free path can be found for routing a new flow.

28. (New) The device as claimed in claim 27, wherein said step of searching a free path provides for searching initially a shortest path between said first and second network elements for successively searching a longer path if said shortest path has not been found.

29. (New) The device as claimed in claim 25, wherein said comparison unit compares the complexity functions by calculating said complexity function for each

network configuration considered in correspondence of an estimated maximum number of routable flows in said transport network.

30. (New) The device as claimed in claim 25 or 29, wherein the complexity factor of a network element is proportional to the cost of the same network element, and said complexity function represents a unit-cost-per-flow function.